

WHAT IS CLAIMED IS:

- 1 1. An optical transceiver module, comprising:
2 a housing;
3 a plurality of components disposed at least partially within said housing, said
4 components including:
5 an optical transmitter;
6 an optical receiver; and
7 a power controller integrated circuit (IC) electrically coupled to at least one of
8 said plurality of components, where said power controller IC is configured to perform
9 power supply functions for said optical transceiver module and said power controller
10 IC includes multiple voltage regulators providing power to said components at two or
11 more voltages.
- 1 2. The optical transceiver module of claim 1, wherein at least one of said
2 multiple voltage regulators is a low drop-out voltage regulator configured to receive
3 an unregulated input voltage and configured to supply a regulated output voltage to at
4 least one of said components.
- 1 3. The optical transceiver module of claim 1, wherein at least one of said
2 multiple voltage regulators is a boost or buck regulator electrically coupled to at least
3 one of said components.
- 1 4. The optical transceiver module of claim 1, wherein said power controller IC
2 further includes a serial bus within said power controller IC.
- 1 5. The optical transceiver module of claim 4, wherein said multiple voltage
2 regulators are electrically coupled to said serial bus.
- 1 6. The optical transceiver module of claim 5, wherein said power controller IC
2 further comprises a serial interface electrically coupled to said serial bus.

1 7. The optical transceiver module of claim 6, wherein said components further
2 comprise a main controller electrically coupled to said serial interface, such that in use
3 said main controller can control at least one of said multiple voltage regulators.

1 8. The optical transceiver module of claim 5, wherein said voltage regulators are
2 individually addressable.

1 9. The optical transceiver module of claim 1, wherein at least one of said voltage
2 regulators includes an Avalanche Photo Diode (APD) voltage supply.

1 10. The optical transceiver module of claim 1, wherein at least one of said voltage
2 regulators is adjustable.

1 11. The optical transceiver module of claim 1, wherein said power controller IC
2 further includes a plurality of components selected from a group consisting of: an
3 analog to digital converter, a temperature sensor, a digital to analog converter, a logic
4 module, an inrush current limiter, and a processor management module.

1 12. The optical transceiver module of claim 1, wherein said components further
2 include a laser driver IC electrically coupled to said optical transmitter, and a post-
3 amplifier IC electrically coupled to said optical receiver.

1 13. The optical transceiver module of claim 1, wherein said components further
2 include a main controller IC electrically coupled to at least one of said components.

1 14. The optical transceiver module of claim 13, wherein said power controller IC
2 is electrically coupled to and controlled by said main controller IC.